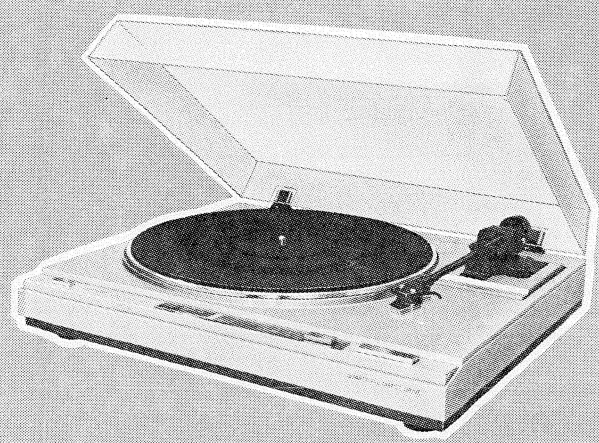
SERVICE DATA
FILE NO. 140-139

TOSHIBA

STEREO TURNTABLE

SR-D33



SPECIFICATIONS

Drive system:	Direct drive
Motor type:	Coreless and slotless motor QUARTZ PLL servo-control
Turntable speeds:	2-speed (33-1/3 and 45 rpm)
Turntable platter:	30 cm aluminum diecast
Tonearm:	Static balanced straight pipe tonearm Effective length: 225 mm Overhang: 15 mm Tracking error: +3°50′ ~ −1° Tracking force adjustment (direct-read scale) Detachable headshell Anti-skating mechanism (direct-read scale co-ordinated with tracking force) Net weight range of replaceable cartridges 4 ~ 9 gf
Cartridge:	Moving magnet (MM) C-60M (TE, TU, FR, AY) Vertical magnet(MM) C-71M (TA, TC) Output voltage: 0.6 mV/cm/sec. Frequency response: 20–20,000 Hz Channel balance (1 kHz): < 1.5 dB Crosstalk (1 kHz): > 20 dB Load resistance: 47K – 100K ohm Stylus tip: 15μm diamond-tipped spherical stylus Dynamic compliance (lateral): 8 mm/N Tracking force: 2 ± 0.5 gf Stylus replacement: N-60D (TE, TU, FR, AY) Stylus replacement: N-71D(TA, TC)
Wow and flutter:	DIN: less than 0.05% (zero to peak) WRMS: less than 0.028%
Rumble:	DIN A: lower than −43 dB DIN B: lower than −74 dB
Mains voltage and frequency:	AC 120V ~ 60 Hz (TA, TC) AC 220 – 240V ~ 50/60 Hz (TE, TU, AY) AC 220 – 240V 50 Hz (FR)
Power consumption:	8W
Major dimensions:	with cover closed 420(W) x 111(H) x 364(D) mm with cover fully opened 420(W) x 420(H) x 398(D) mm without cover 420(W) x 101(H) x 364(D) mm
Weight:	Approx. 5.2 kg (with cover) Approx. 4.7 kg (without cover)

Specifications are subject to change without notice.

TA, TC, TE, TU, FR, AY

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1. OPERATING CONTROLS

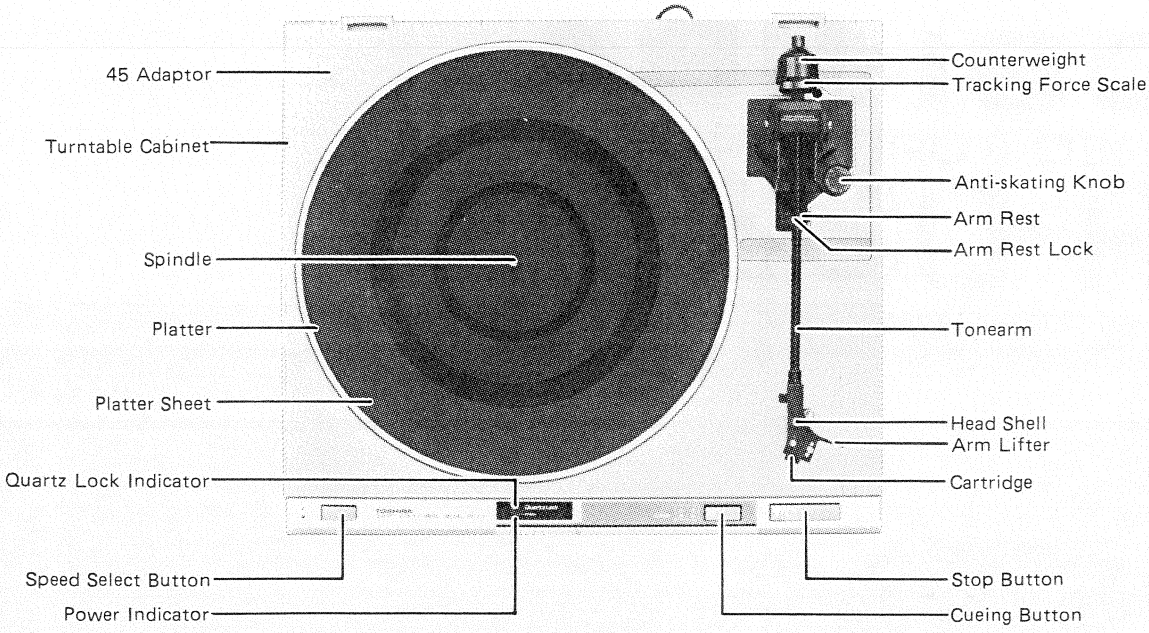


Figure 1.

2. DISASSEMBLY INSTRUCTIONS

BOTTOM PLATE REMOVAL

1. Remove 8 screw Ⓐ.
2. Remove the bottom plate from the cabinet.

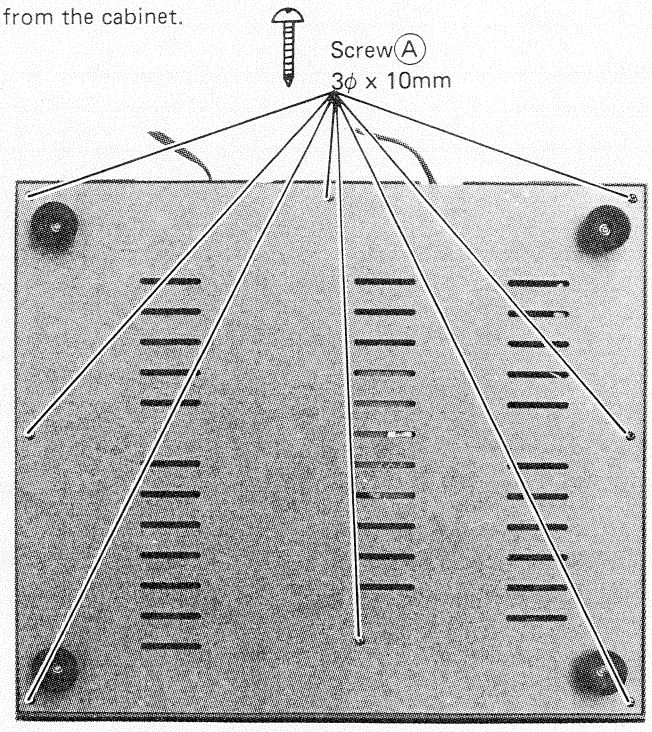


Figure 2.

3. ADJUSTMENTS

■ TRACKING FORCE ADJUSTMENT

(Note: This adjustment is important)

If the turntable has already been connected to an amplifier, be sure to switch the amplifier's power supply off before commencing this adjustment.

1. First remove the stylus cover.
2. Check that the cueing button is in the "▼" position, and that the tonearm itself is free to move from the arm rest.
3. Set the anti-skating knob to read "0".
4. Now carefully screw the counterweight out backwards until the tonearm is perfectly balanced in a horizontal plane. Then keeping the counterweight still, turn the tracking force scale only to align the "0" with the reference line.
5. Next turn the counterweight together with the tracking force scale so that the scale reading corresponds with the tracking force rating specified for your cartridge (must be 1.75 gf).
   [Stylus force is expressed in grammes force. (gf; 1 gf = 10mN)]
6. Return the tonearm to the arm rest.
7. Also adjust the anti-skating knob to the same value as the tracking force.

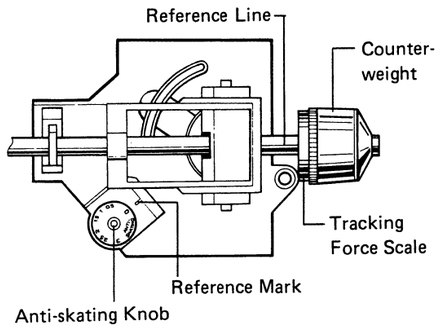


Figure 3.

AUTO-RETURN POSITION ADJUSTMENT

1. Remove the turntable and turntable sheet.
2. Turning the screwdriver clockwise moves the return position toward outer circle and turning counterclockwise moves toward inner circle.
3. When using test record (TX-3002) adjust as follows:
   - Using the side 2 with the pitch setting to 30m/m, adjust so the AUTO RETURN operates between count 11 and 18.

SPEED ADJUSTMENT (45 rpm, 33-1/3 rpm)

1. Adjust the trimming pot on the PC board.

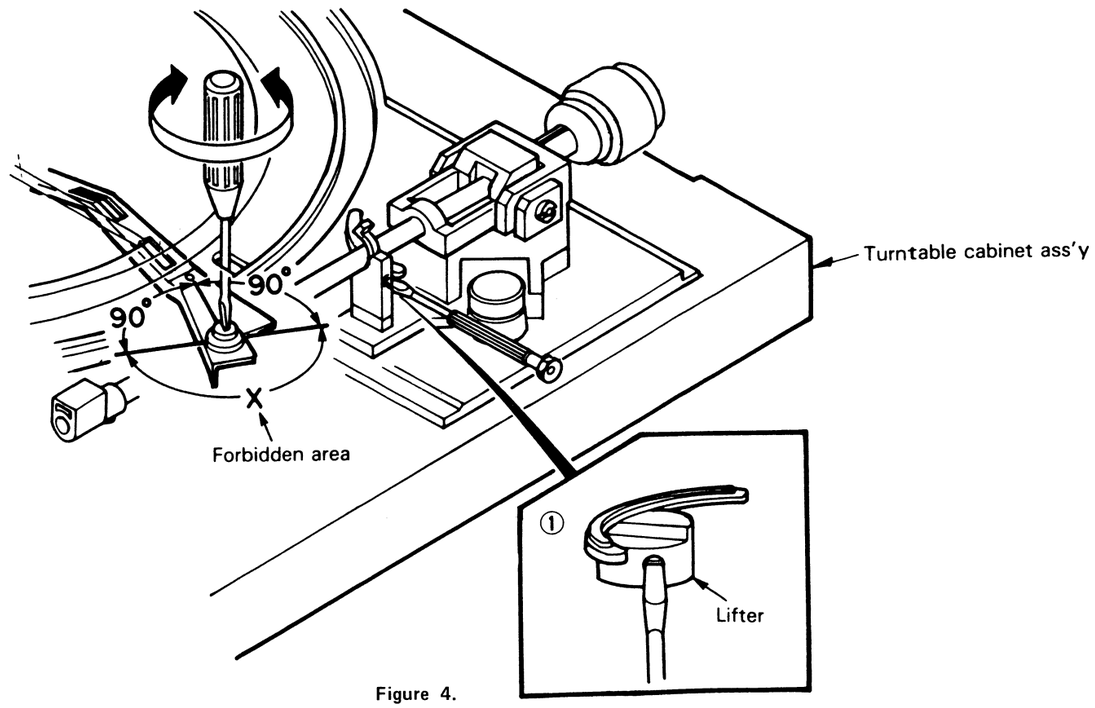


Figure 4.

STYLUS HEIGHT ADJUSTMENT

1. Loosen the lifter screw ①.
2. Adjust the vertical position of the lifter so that the stylus is positioned at an appropriate height (6m/m).

4. WIRING

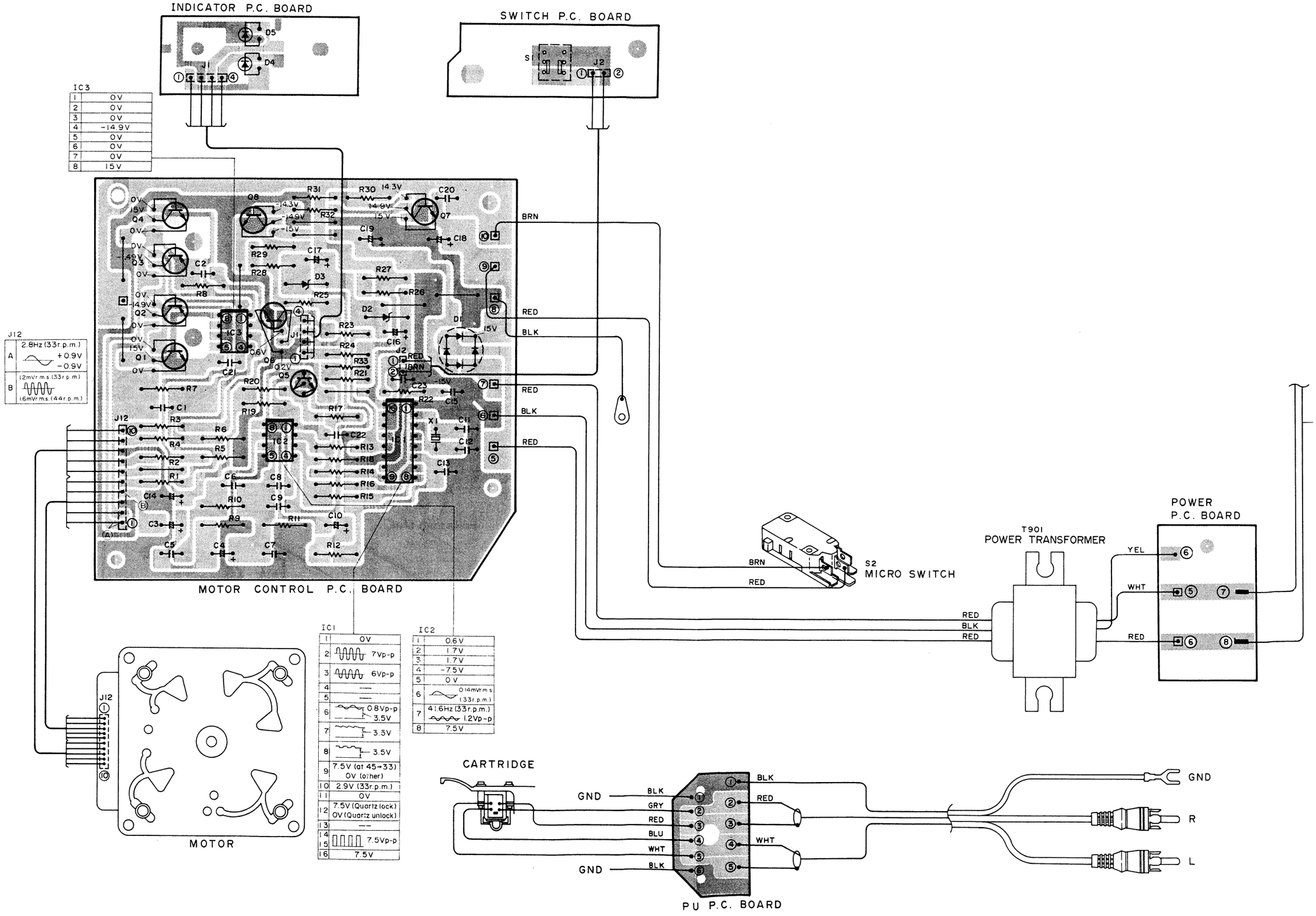
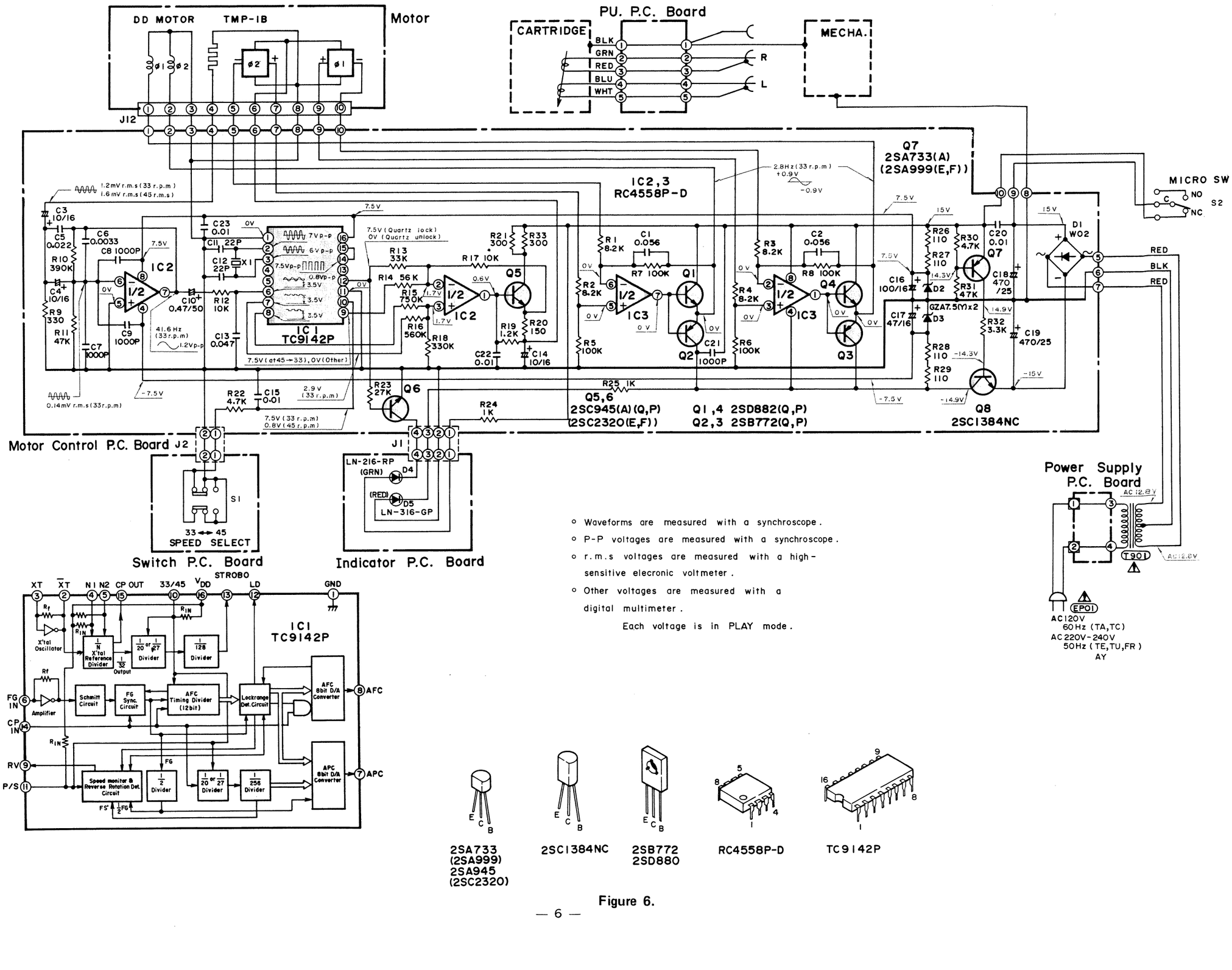


Figure 5.

5. SCHEMATIC DIAGRAM



- Waveforms are measured with a synchroscope.
- P-P voltages are measured with a synchroscope.
- r.m.s voltages are measured with a high-sensitive elecronic voltmeter.
- Other voltages are measured with a digital multimeter.

  Each voltage is in PLAY mode.

2SA733 (2SA999) 2SA945 (2SC2320) | 2SC1384NC | 2SB772 2SD880 | RC4558P-D | TC9142P

Figure 6.

6-1. EXPLODED VIEW (TOP)

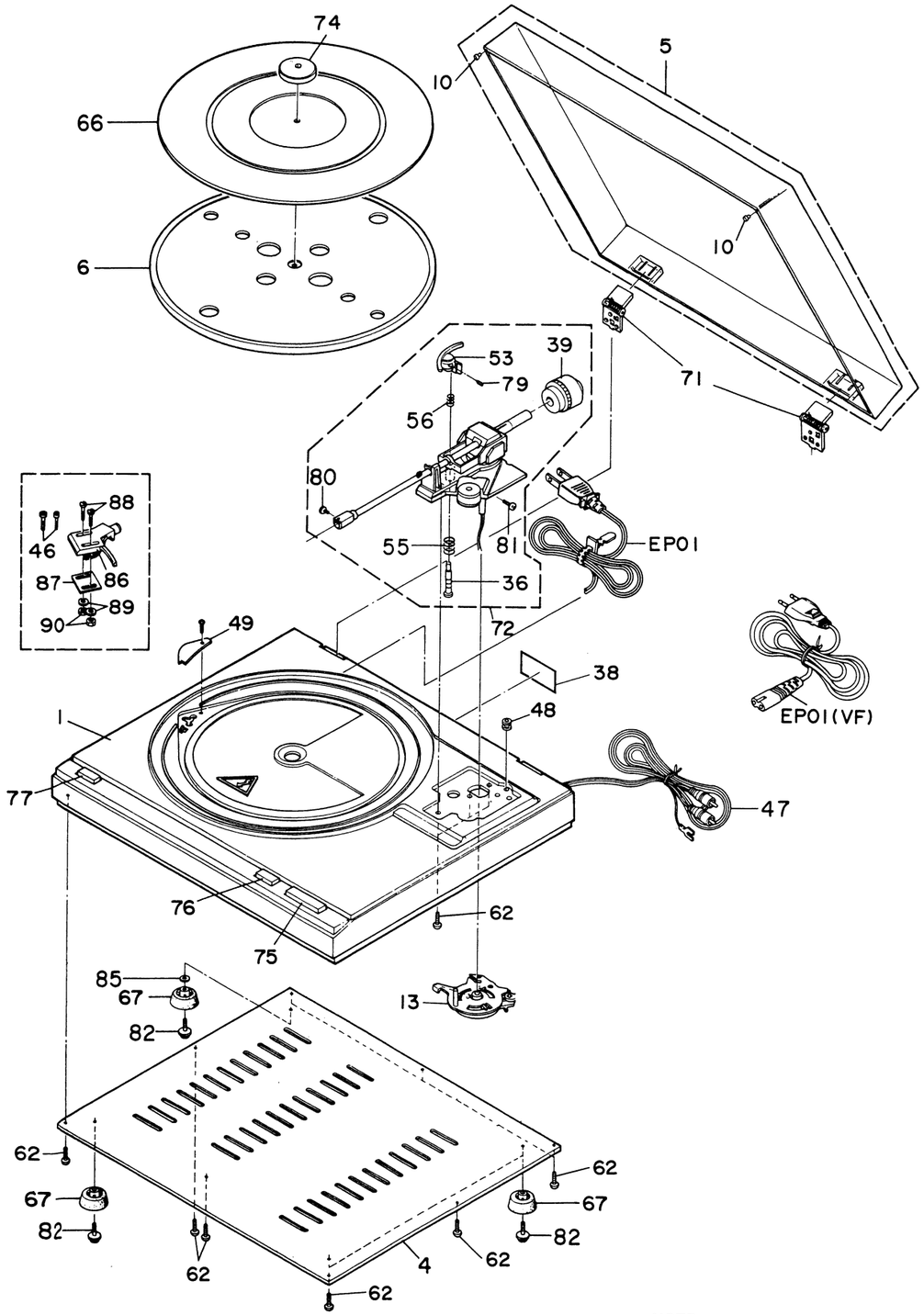


Figure 7.

NOTE:
Parts excluded in the parts list are not stocked since they are seldom required for routine service. Some delay should be anticipated when ordering these items.

6-2. EXPLODED VIEW (BOTTOM)

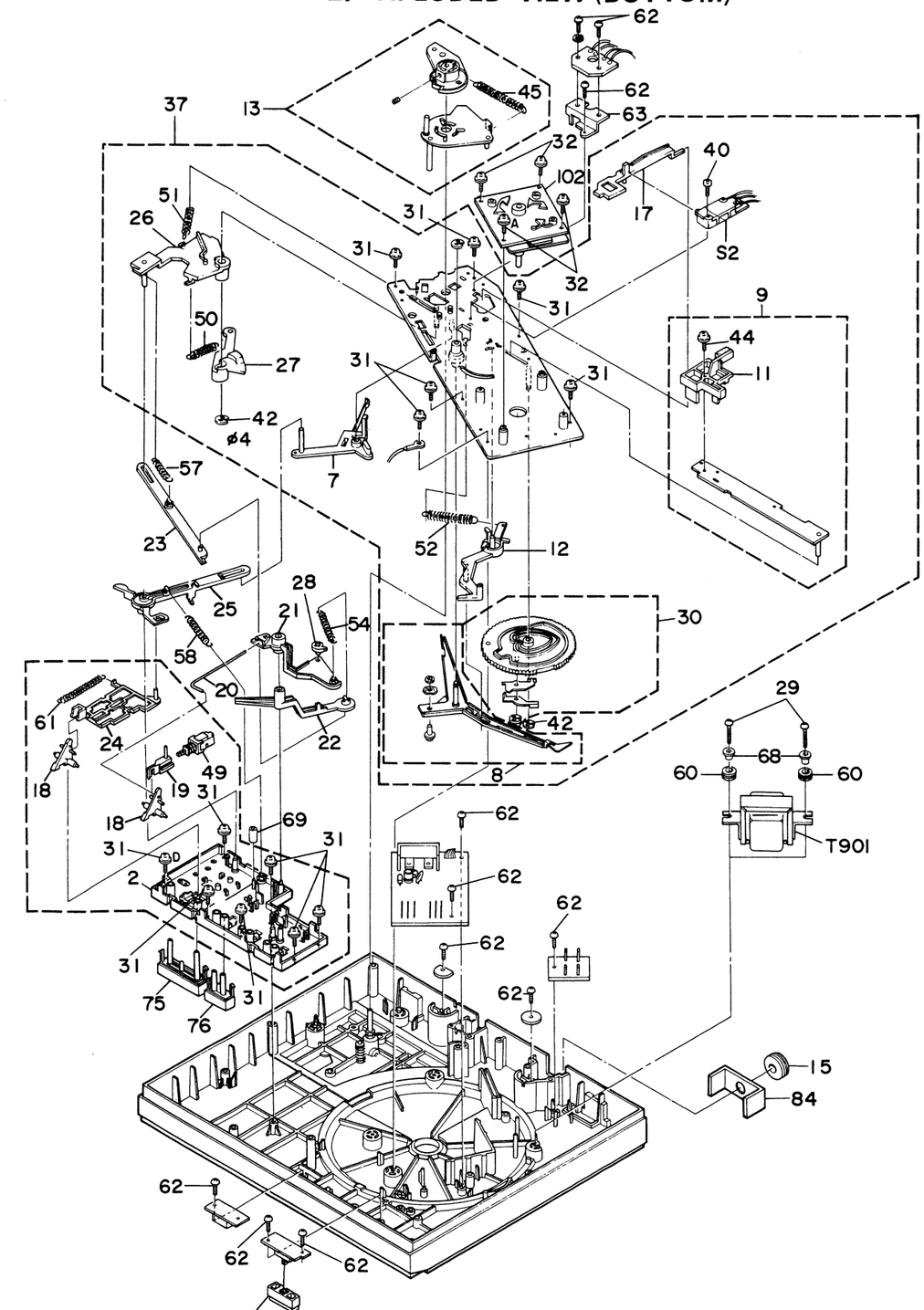


Figure 8.

NOTE:
Parts excluded in the parts list are not stocked since they are seldom required for routine service. Some delay should be anticipated when ordering these items.

7. PARTS LIST

Symbol No.	Part No.	Description
		MECHANISM AND CABINET PARTS
1	20815232	Player Case Ass'y (TA, TC)
1	20815233	Player Case Ass'y (TE, TU, AY)
1	20815234	Player Case Ass'y (FR)
2	20743145	Sub Panel
4	20826244	Bottom Plate
5	20847311	Dust Cover Ass'y (TC, TE, FR, AY)
6	20723118	Turntable
7	20788168	Arm Ass'y
8	20788173	Connection Arm Ass'y
9	20788200	Slider Ass'y
10	22758484	Cushion, Dust Cover (TC, TE, FR, AY)
11	20788201	Arm
12	20788202	Arm
13	20788203	Arm Ass'y
15	25848041	Bush, Power Cord (TE, TU, FR, AY)
17	20788204	Arm
18	20788152	Arm, Knob
19	20788153	Arm, Push Switch
21	20788155	Arm
22	20788156	Arm
23	20788157	Arm
24	20788154	Slider
25	20788158	Arm
26	25749046	Cam
27	25883116	Cam
28	25749047	Cam
29	22707805	Screw, 3ø x 20mm
30	20721085	Main Gear Ass'y
31	22708070	Screw, 3ø x 12mm, Tapping
32	22708159	Screw, 3ø x 6mm
36	20725085	Shaft
37	20788210	Return Mechanism Ass'y
38	22900454	Nameplate (TA, TC)
38	22900455	Nameplate (TE, TU, AY)
38	22900456	Nameplate (FR)
39	20734050	Main Weight (TA, TC)
39	20734048	Main Weight (TE, TU, FR, AY)
40	22708300	Screw, 3ø x 14mm
42	22703280	E Ring, 4ø
44	22708221	Screw, 3ø x 4mm

Symbol No.	Part No.	Description
45	25776778	Spring, Arm Ass'y
46	22155107	Cartridge, C-71M (TA, TC)
46	22155108	Cartridge, C-60M (TE, TU, FR, AY)
47	22164950	Pin Plug Cord
48	20788206	Hole Cap (TA)
49	22196352	Push Switch, Cueing
50	25777312	Spring, Cam
51	25777311	Spring, Cam
52	25776779	Spring, Arm
53	20788207	Holder, Tonearm
54	25777297	Spring, Arm
55	25777293	Spring, Shaft
56	25777294	Spring, Holder
57	25777298	Spring, Arm
58	25777299	Spring, Junction Arm
60	22758483	Cushion, Power Transformer
61	25777295	Spring, Slider
62	22708069	Screw, 3ø x 10mm
66	20723139	Turntable Sheet
67	20842171	Insulator
68	25753364	Collar, Power Transformer
69	22764215	Sleeve
71	20861117	Hinge, Dust Cover (TC, TE, FR, AY)
72	20788211	Tonearm (TA, TC)
72	20788212	Tonearm (FR)
72	22788213	Tonearm (TE, TU, FR, AY)
73	25791685	Motor Ass'y
74	20971653	EP Adaptor
75	20872107	Knob, Start/Stop (TA, TC)
75	20872047	Knob, Start/Stop (TE, TU, FR, AY)
76	20872108	Knob, Cueing (TA, TC)
76	20872048	Knob, Cueing (TE, TU, FR, AY)
77	20872109	Knob, Speed (TA, TC)
77	20872049	Knob, Speed (TE, TU, FR, AY)
79	22708066	Screw, 2.6ø x 4mm
80	22708065	Screw, 4ø x 4mm
81	22708301	Screw, 2.6ø x 4mm, FLT
82	22708072	Special Screw, 3ø x 14mm
85	25766207	Flat Washer, Insulator
86	20736058	Head Shell
87	20731316	Balance Weight
88	20788089	Screw, 2.6ø x 10.5mm
89	20791077	Washer, 2.7ø
90	20796027	Nut, 2.6ø

CAUTION: The ⚠ mark, the symbol No. circled with oval in the schematic diagram and the shaded area in the parts list designate components which have special characteristics important for safety and should be replaced only with types identical to those in the original circuit or specified in the parts list.

Symbol No.	Part No.	Description
		TRANSISTORS, ICS AND DIODES
Q1	22117248	Transistor, 2SD882 (Q, P)
Q2, 3	22117249	Transistor, 2SB772 (Q/P)
Q4	22117248	Transistor, 2SD882 (Q, P)
Q5, 6	22114768	Transistor, 2SC945 (A) (Q, P)(or 2SC2320 (E, F))
Q7	22117250	Transistor, 2SA733 (A) (Q, P)(or 2SA999 (E, F))
Q8	22117247	Transistor, 2SC1384NC
IC1	B0411420	IC, TC9142P
IC2, 3	22117243	IC, RC4558P-D
D1	22115507	Diode, W02
D2, 3	22115964	Diode, GZA7.5 (Y)
D4	22115965	Diode, LN-316-GP
D5	22115924	Diode, LN-216-RP
		ELECTRICAL PARTS
S1	22196531	Push Switch, Speed Select
S2	22196537	Micro Switch, Power
X1	22153297	Crystal Oscillator, 4.6 MHz
⚠ T901	22224407	Transformer, Power (TA, TC)
⚠ T901	22224408	Transformer, Power (TE, TU, FR, AY)
⚠ EP01	22176573	Cord, Power (TA, TC)
⚠ EP01	22176286	Cord, Power (TE, FR)
⚠ EP01	22176628	Cord, Power (TU)
⚠ EP01	22176588	Cord, Power (AY)
		CAPACITORS ABBREVIATIONS: MY = Mylar, EL = Electrolytic, CD = Ceramic Disk
C1, 2	22371563	MY, 0.056mfd, J, 50V
C3, 4	22485100	EL, 10mfd, 16V
C5	22371223	MY, 0.022mfd, J, 50V
C6	22371332	MY, 3300pF, J, 50V
C7, 8, 9	22349102	CD, 1000pF, K, 50V
C10	22488478	EL, 0.47mfd, 50V
C11, 12	22361220	CD, 22pF, J, 50V
C13	22342473	CD, 0.047mfd, Z, 50V
C14	22485100	EL, 10mfd, 16V
C15	22342103	CD, 0.01mfd, Z, 50V
C16	22485101	EL, 100mfd, 16V
C17	22485470	EL, 47mfd, 16V
C18, 19	22486471	EL, 470mfd, 25V
C20	22342103	CD, 0.01mfd, Z, 50V
C21	22349102	CD, 1000pF, K, 50V
C22, 23	22342103	CD, 0.01mfd, Z, 50V
		RESISTORS **All resistors are carbon film ¼W, ±5% unless otherwise noted.**
R1, 2	22545822	8.2K ohm
R3, 4	22545822	8.2K ohm
R5, 6	22545104	100K ohm
R7, 8	22545104	100K ohm
R9	22545331	330 ohm
R10	22545394	390K ohm
R11	22545473	47K ohm
R12	22545103	10K ohm
R13	22545333	33K ohm
R14	22545563	56K ohm
R15	22540689	750K ohm
R16	22545564	560K ohm
R17	22545103	10K ohm
R18	22545334	330K ohm
R19	22545122	1.2K ohm
R20	22545151	150 ohm
R21, 33	22540705	300 ohm
R22	22545472	4.7K ohm
R23	22545273	27K ohm
R24, 25	22545102	1K ohm
R26, 27	22540690	110 ohm
R28, 29	22540690	110 ohm
R30	22545472	4.7K ohm
R31	22545473	47K ohm
R32	22545332	3.3K ohm
		ACCESSORIES
AC01	22904080	Owner's Manual (TA)
AC01	22904081	Owner's Manual (TC)
AC01	22904077	Owner's Manual (TE)
AC01	22904079	Owner's Manual (TU, AY)
AC01	22904078	Owner's Manual (FR)

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TOSHIBA CORPORATION
1-1, SHIBAURA, 1-CHOME, MINATO-KU, TOKYO 105, JAPAN